

# INTERNATIONAL SEARCH REPORT

Inte Application No  
PCT/IB2004/000382

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B09B3/00 B29B17/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B09B B29B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/94457 A (DU PONT CANADA) 13 December 2001 (2001-12-13) page 5, line 8 - page 7, line 23; claims 1,2 -----	1,17,34, 35
X	US 5 559 159 A (SUBLETT BOBBY J ET AL) 24 September 1996 (1996-09-24) abstract column 2, line 3 - line 17; example 1	1,17,34, 35
X	US 5 789 636 A (NIEMANN KLAUS ET AL) 4 August 1998 (1998-08-04) column 7, line 43 - line 56 column 3, line 53 - column 4, line 24; figure 1 column 2, line 61 - line 62 ----- -/-	17-19,35

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

### \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

\*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the International search

6 December 2004

Date of mailing of the International search report

04.01.2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax (+31-70) 340-3016

Authorized officer

Clarke, A

## INTERNATIONAL SEARCH REPORT

Intel Application No  
PCT/IB2004/000382

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 876 644 A (MOORE TONY CLIFFORD ET AL) 2 March 1999 (1999-03-02) column 3, line 1 - line 28 -----	1-16,34, 36
A	US 5 405 429 A (REY THEO ET AL) 11 April 1995 (1995-04-11) abstract -----	1
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 03, 31 March 1999 (1999-03-31) & JP 10 332118 A (MITSUI ENG & SHIPBUILD CO LTD), 15 December 1998 (1998-12-15) abstract -----	1-16,34, 36
A	US 5 223 544 A (JENKS RANDY S ET AL) 29 June 1993 (1993-06-29) column 3, line 34 - column 4, line 35 -----	17-19

**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/IB2004/000382**Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-20, 26-28, 34-36

4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16,34,36

Process for recycling waste including depolymerising step and repolymerising step  
---

2. claims: 17-20,26-28,35,36

System for recycling waste including depolymerising step  
---

3. claims: 21-25

Multistage reactor  
---

4. claims: 29-31

Turbo-electrophotolytic reactor  
---

5. claim: 32

Super-oxidising mixture  
---

6. claim: 33

Repolymerisation mixture  
---

**INTERNATIONAL SEARCH REPORT**

 Inte d Application No  
 PCT/IB2004/000382

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 0194457	A 13-12-2001	WO	0194457 A2	13-12-2001
		CA	2409837 A1	13-12-2001
		EP	1294796 A2	26-03-2003
		JP	2003535942 T	02-12-2003
		US	2004186190 A1	23-09-2004
		US	2002037939 A1	28-03-2002
US 5559159	A 24-09-1996	NONE		
US 5789636	A 04-08-1998	DE	4435238 A1	11-04-1998
		AT	168714 T	15-08-1998
		AU	688145 B2	05-03-1998
		AU	3744895 A	26-04-1996
		BG	63346 B1	31-10-2001
		BG	101423 A	30-12-1997
		BR	9509235 A	21-10-1997
		CA	2201777 A1	11-04-1996
		CN	1159821 A	17-09-1997
		CZ	9701018 A3	13-08-1997
		DE	59502919 D1	27-08-1998
		DK	784661 T3	16-11-1998
		WO	9610619 A1	11-04-1996
		EP	0784661 A1	23-07-1997
		ES	2120770 T3	01-11-1998
		FI	971375 A	03-06-1997
		GR	3027760 T3	30-11-1998
		HU	77197 A2	02-03-1998
		JP	10506662 T	30-06-1998
		JP	3462216 B2	05-11-2003
		NO	971486 A	22-05-1997
		NZ	294602 A	28-01-2000
		PL	319453 A1	04-08-1997
		RO	118134 B1	28-02-2003
		RU	2151163 C1	20-06-2000
		SK	41997 A3	10-09-1997
		ZA	9508364 A	13-05-1996
US 5876644	A 02-03-1999	EP	1084171 A1	21-03-2001
		WO	0077071 A1	21-12-2000
US 5405429	A 11-04-1995	CH	683676 A5	29-04-1994
		AT	183659 T	15-09-1999
		CA	2095946 A1	13-11-1993
		DE	59309742 D1	30-09-1999
		DK	572769 T3	20-03-2000
		EP	0572769 A2	08-12-1993
		ES	2137953 T3	01-01-2000
		GR	3031892 T3	29-02-2000
		JP	3261416 B2	04-03-2002
		JP	6055155 A	01-03-1994
JP 10332118	A 15-12-1998	NONE		
US 5223544	A 29-06-1993	AU	671109 B2	15-08-1996
		AU	3752493 A	08-11-1993
		BR	9306156 A	23-06-1998
		CA	2133214 A1	14-10-1993
		DE	69329279 D1	28-09-2000

## INTERNATIONAL SEARCH REPORT

Intel Application No  
PCT/IB2004/000382

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 5223544	A	DE	69329279 T2	26-04-2001
		WO	9320125 A2	14-10-1993
		EP	0637326 A1	08-02-1995
		ES	2149810 T3	16-11-2000
		JP	3459919 B2	27-10-2003
		JP	7505424 T	15-06-1995
		KR	245206 B1	15-02-2000